Controlling Measles through Politics and Policy

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Vaccination is one of history's most successful public health interventions. Measles is one of the most contagious diseases, and is preventable through the Measles-Mumps-Rubella (MMR) vaccine. Since 2000, vaccination campaigns have reduced both global measles incidence rates and measles deaths by 80%.[1] However, progress toward measles elimination has slid backward in several previously well-protected global regions. As more communities are – or are at risk of falling – below the 95% immunization rates required for herd immunity, due increasingly to vaccine skepticism and declination rather than lack of access, many U.S. states and countries must reappraise their vaccination policies and programs.

From 2002-2017, all measles cases in the Western Hemisphere were imported.[2] Endemic measles has reestablished in Venezuela following the collapse of its government and economy.[3] Europe experienced a 15-fold increase in regional cases between 2016 (record low 5,273) and 2018[4] and, in 2019, has ongoing outbreaks in France, Greece, Italy, and Romania.

The number and size of measles-vulnerable hotspots and high-profile measles outbreaks in the U.S. is increasing, especially in metropolitan areas where states permit philosophical exemptions to childhood vaccination requirements.[5] Outbreaks include the 2014-2015 Disneyland measles outbreak spread across eight states, a 2017 outbreak in a Minnesota Somali community,[6] 82 imported cases in 2018 – the highest since 2000 -- which triggered 17 discrete outbreaks,[7] and a 2019 outbreak in a Washington State county containing four times the national average rate of children with exemptions.[8] Following the Washington outbreak, local orders for MMR vaccines increased nearly 500 percent.[9]

Despite its 97% efficacy and strong evidence of safety from numerous high-quality and highly-powered studies, MMR vaccination has been dragged into the "fake news" information wars. Recent research shows that social media bots, trolls, and "content polluters" that spread and elevate low credibility information[10] are being used to muddy and magnify the contentiousness of online vaccine discussions.[11] The *New York Times* described the Italian Five Star Movement's use of anti-vaccine rhetoric in its rise to political power as "perhaps the most acute case of a contagion of another kind spreading in Europe and the West — one in which populist politics, misinformation and pseudo-science on the internet have combined with an anti-establishment mood in which experts are not to be trusted."[12]

Myriad articles have been written on the medical, public health, bioethics and public health ethics, economic (including costs of outbreak containment), solidarity, and legal arguments in support of robust interventions to protect individuals and communities from measles outbreaks.[13] The construction and implementation of effective measles vaccination policy must be founded in these interdisciplinary insights to assure trust, confidence, intervention uptake, adherence, and sustainability.

State laws tying school and daycare enrollment to vaccination has contributed to high U.S. vaccination rates. Although not legally required to do so, many state legislatures offer exemptions from these requirements based upon nonmedical grounds to enhance public trust and balance parental rights and public health protection. As increasing numbers of families seek exemptions, stakeholders from public health, health care, and the local community need to take additional steps to educate and build alliances

with their local legislators. These coalitions should push to pass stronger vaccination laws grounded in science, with narrower opportunities for exemption, and well-funded public health programs and systems to implement and enforce such policies.

In 2015, California successfully eliminated nonmedical exemptions from its vaccination law in response to the Disneyland outbreak. Such a step may not be politically or philosophically feasible for some states, and while understandable for measles may not be appropriate for all childhood immunizations. However, there are numerous options that could increase public health protections, including: (a) ensuring that vaccine policies apply to all students, including those in private schools and daycares and home schooled students participating in school activities like sports or performing arts; (b) rolling back philosophical exemptions to the narrower (and less frequently used) religious exemption; (c) bolstering the administrative requirements for seeking an exemption, such as requiring annual and/or notarized exemptions and requiring face-to-face evidence-based discussions with public health educators or physicians. While exemption-seeking free riders might still try to game narrower and more complex structures, such processes are more protective and demonstrate greater commitment to the vaccination norm than limiting state authority to assessing whether exemption forms were filled out completely with the appropriate "magic words." Medical exemption procedures could be strengthened to authorize substantive review of applications (and rejection as needed), and to empower state licensing boards to investigate and discipline practitioners whose exemption practices deviate from standards of care.[14] The Federal government can encourage states to strengthen their prevention policies by conditioning receipt of some funds on such changes. Furthermore, the Federal government's continued commitment to ensuring and researching vaccine safety is essential, as the ethical duty to the public increases the closer our systems come to a true vaccine mandate.

Increased funding is needed to support additional health communication campaigns (in person and across all forms of media) to reinforce vaccination as the overwhelming community norm, promote the benefits of vaccination and soliciting and answering concerns with science-grounded responses.[15] Social science research offers valuable insight into how to bring about consensus about the value of vaccination, along with greater understanding of who chooses to decline or delay vaccination and why;[16] distinctions between cautious parents, those who refuse, and those who deny the value of vaccines; the ways families gather, process, and value information associated with vaccination decisions; the ways decisions connect with peoples' sense of identity and community; and nuanced engagement approaches that enhance trust and vaccine uptake.[17]

While families trust health care providers concerning vaccination, our health care system does not sufficiently support primary care providers as partners with patients and families in the decision-making process. Federal reimbursement policy now offers reimbursement for vaccine uptake discussions; however, our health system still puts tremendous pressure on doctors to keep office visits short. This may encourage physicians to forego[18] measured, often multi-visit, inquiry-based techniques shown to build trust and improve vaccine uptake by hesitant families[19] in favor of less effective communication methods or dismissing patients from their practices. Insurance also does not cover the full range of costs associated with stocking and administering vaccines.[20]

Vaccination access must be as easy as possible. While initiatives like the Vaccines for Children program have reduced cost-related barriers, increasing support for school-based health centers would improve access further and enhance health equity. Colleges should also consider stronger vaccination policies and increase the availability of vaccination clinics on campus, providing opportunities to reach those unvaccinated and under-vaccinated young adults who are now legally able to weigh their choices and make vaccination decisions of their own.[21]

Through localized policy interventions grounded in interdisciplinary research, we can successfully and justly reverse recent trends and inform, engage and protect the public from measles.

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